



Interannual variability of surface ozone and NO₂ concentration over Poland – 8 years of forecasting comparison with observations

Joanna Struzewska (1), Jacek W. Kaminski (2,4), Pawel Durka (3,4), and Karol Szymankiewicz (1)

(1) Warsaw University of Technology, Faculty of Building Services, Hydro and Environmental Engineering, Department of Environmental Protection and Management, Warsaw, Poland (struzw@is.pw.edu.pl), (2) Institute of Geophysics, Polish Academy of Sciences, Warsaw, Poland, (3) Institute of Environmental Protection - National Research Institute, Warsaw, Poland, (4) EcoForecast Foundation, Warsaw, Poland

Concentrations of near-surface ozone in terms of long-term air quality objectives and target values are exceeded at many monitoring sites in Poland.

We will present the analysis of a long-term variability of surface ozone concentrations based on measurements from selected locations in Poland and a regional chemical weather model, GEM-AQ, simulations for the period 2008-2016.

The GEM-AQ is a comprehensive chemical weather model where air quality processes (chemistry and aerosols) are implemented on-line in the operational weather prediction model. The modelling domain is defined on a global variable grid with ~15km (0.135deg) resolution over Europe, and a uniform resolution of ~5 km (0.05 deg) over Poland. The GEM-AQ model has been used for air quality forecasting and assessment in Poland since 2008.

Interpretation of ozone variability and trends in the context of NO₂ concentration and specific synoptic conditions will be presented.